

Let's Talk About...

Egg Allergy

What is an egg allergy?

An egg allergy is a reaction to the protein in egg. Eating, or for some persons, even breathing air around eggs can cause an allergic reaction.

What are the symptoms of an egg allergy reaction?

Skin reactions:

- rashes
- hives
- eczema
- flushing
- swelling

Digestive system reactions:

- belly pain
- diarrhea
- nausea
- vomiting
- itching
- swelling of the tongue, throat or mouth

Respiratory system (lungs) reactions:

- runny nose
- wheezing
- asthma
- throat tightening
- difficulty breathing

Cardiovascular system (heart) reactions:

- rapid heartbeat
- low blood pressure
- passing out

What do I do for my child with egg allergy?

To treat an egg allergy, do not eat eggs or any foods with egg products. You and your child will need to read labels on food for egg products.

What should I look for on a food label?

- 1 Labels on food have to say if the food contains the 8 most common food allergens: milk, egg, soy, wheat, peanuts, tree nuts, shellfish, or fish. Always read the ingredient list to be sure and check all food labels carefully. Manufacturers may change ingredients without warning.

- 2 Allergen Advisory Statement—"May contain [allergen]" or "Produced in a facility that also produces products containing [allergen]."
- 3 Avoid any food product that contains an Advisory Statement for your child's food allergies.

Below is an example of a food label:

Ingredients
Whole Oats, Brown Rice Syrup, Rice Crisps (Milled Rice, Sugar, Salt, Barley Malt), Diced Apples, Evaporated Cane Juice Syrup, Raisins, Roasted Soy Beans, Almond Butter, Honey, Pear and Grape Juice Concentrate, Brown Rice Flour, Soy Protein Isolate, Glycerin, Natural Flavors, Cinnamon, Nonfat Milk
Contains milk, nut and soy ingredients. Made on equipment that also processed peanuts and wheat.

What are some names for egg products?

The following tables lists some of the other names for egg products that you will find on food labels. Egg is often brushed on breads and other bakery foods. If the food has a shiny appearance, it was probably brushed with egg. Avoid shiny baked products.

Different Names for Eggs		
Albumin	Egg yolk	Ovomucin
Apovitellin	Eggs from all bird species	Ovomucoid
Dried egg		Ovovitella
Eggnog	Frozen eggs	Ovovitellin
Egg solids	Globulin	Powdered egg
Egg substitutes (Eggbeaters, etc)	Livetin	Silici albuminate
	Lysozyme	Simplese
Egg protein	Mayonaise	Vitellin
Egg wash	Meringue	Whole egg
Egg white	Ovalbumin	
Egg white solids	Ovoglobulin	

Will my child get enough nutrients by avoiding eggs?

When your child avoids foods containing egg, essential nutrients may be lost from their diet. For example, most baked goods are made with enriched and fortified flour, which contains B vitamins and

iron. Did your child normally eat a variety of baked goods prior to developing an egg allergy? If so, you will need to provide calories, B vitamins, iron and additional nutrients from other egg-free sources.

Nutrient's lost when avoiding egg	Suggested alternate sources (if not allergic)
Protein, Iron, Biotin, Folic acid, Riboflavin, Vitamins A, D, E, B12	Increase other protein foods such as meat, fish, poultry, legumes, dairy (if safe for your child); fruit, vegetables, leafy greens; and enriched grains.

What can I substitute for egg when I bake?

Eggs are one of the hardest ingredients to make substitutions for because they play such critical, and varied, roles in baking. They can be used as binding agents (hold ingredients together), moisturizers (add moisture), or as leavening agents (make things rise) in baking. Knowing the role egg plays in the recipe will help you determine how to substitute for it.

Eggs as Binders and Moisturizers

If the recipe has only one egg but contains leavening—such as baking powder or baking soda—then the egg is the binder. If there is no other liquid, then the egg is the binder AND the moisturizer.

In place of 1 large egg as a binder and/or moisturizer, use:

- **Soft Silken Tofu (Mori-Nu®):** Use ¼ cup and blend with recipe liquid until completely smooth before adding dry ingredients.
- **Flaxseed or Chia seed:** 1 Tablespoon ground flax or chia seed into 3 Tablespoons warm (100 degrees+) water = 1 egg. Whisk together and let sit for a 5–10 minutes.
- **Banana:** 1 mashed ripe banana replaces one egg.
- **Applesauce:** ¼ cup unsweetened applesauce replaces one egg.

Eggs as Leavening Agents

If there are no other ingredients that make the baked item rise (yeast, baking soda, baking powder), then the egg is the leavening agent. Baked goods that rely on egg whites to make them rise—such as angel food cakes or soufflés—do not work well with egg substitutes.

In place of 1 egg as a leavening agent, use:

- 1 tsp baking powder + 1 Tbsp. Liquid + 1 Tbsp. Vinegar = 1 egg.
- 1 tsp yeast dissolved in ¼ cup warm water = 1 egg.
- 1½ Tbsp. water + 1½ Tbsp. oil + 1 tsp baking powder = 1 egg.
- 1 tsp plain gelatin + 1 Tbsp. warm water (don't mix until ready to use) = 1 egg.
- **Buttermilk-Soda:** Replace liquid in recipe with same amount of buttermilk (or thinned yogurt or cultured coconut milk). Replace baking powder with one-quarter as much baking soda (e.g., ¼ teaspoon baking soda for each 1 teaspoon baking powder.)

Egg Replacers

There are various commercial egg replacers. They are usually made of mixtures of potato starch, tapioca, soy flour, wheat flour, oil, baking powder, cornstarch, unflavored gelatin, xanthan gum, or dairy. Egg replacers are most often powders that are mixed with water and then added to the wet ingredients of the recipe. The most well-known ones are Ener-G and Bob's Red Mill Vegetarian Egg Replacer. Aquafaba is the newest one and can be used for meringues and macaroons. Follow the package directions for mixing.

Additional ways to replace eggs

There are many new food products emerging today that are allergy friendly. For egg allergy, not having eggs as a meal or part of a meal is tough. Ideas include:

- Tofu scrambled with additions such as turmeric for color, cornstarch or arrowroot powder for thickening, and black Himalayan sea salt.
- Chickpea flour omelet or crepe filled with traditional omelet fillings such as spinach, mushrooms, etc.
- Products: The Vegg, The Vegan Egg, and Just Scramble can be used for scrambled eggs, French toast, and in baking.

In the following tables, the first column lists some general foods that are okay to eat. The second column lists egg-containing foods that should be avoided. Always read food labels for egg or egg ingredients.

Foods your child can eat (No egg)	Foods your child should NOT eat (Contain egg)
Breads, Cereals, Rice, Pasta	
<ul style="list-style-type: none"> Breads (Read labels and make sure they are egg-free) Crackers, graham, saltines (make sure are egg-free) Cold and hot cereal (make sure are egg-free) Corn or potato chips Granola bars Homemade, egg-free muffins Pastas (make sure egg-free) Pizza Rice, plain, cooked Rice noodles Tortillas, taco shells 	<ul style="list-style-type: none"> Batter fried foods Commercial breads, rolls with egg products in them Crackers and chips with egg protein added Doughnuts Egg noodles/pasta Egg salad sandwiches French toast Fritters Macaroni or potato salad Muffins Pretzels Rice prepared with egg protein
Desserts	
<ul style="list-style-type: none"> Frozen juice bars Fruit Roll-ups Fruit snacks Gelatin Homemade cookies with no eggs Most homemade fruit pies No-bake cookies 	<ul style="list-style-type: none"> Angel food cake Bownies Cakes Candy; cream filling, nougat, divinity Cookies Cream filled pies Custard Some Ice creams (check for egg) Meringues Puddings Some gelatino Sorbet Souffles
Fruit and Fruit Juices	
<ul style="list-style-type: none"> All baby fruits (make sure egg-free) All fresh fruits Canned and frozen fruits (make sure egg-free) 	<ul style="list-style-type: none"> Any canned, frozen or processed fruit made with egg or egg products
Milk and Dairy Prodcuts	
<ul style="list-style-type: none"> Buttermilk Cheeses: cheddar, monterey, mozzarella, parmesan, swiss, provolone, and colby jack Cottage cheese Cream Milk; nonfat, 1%, 2%, whole, chocolate Homemade pudding (make sure egg-free) Ricotta cheese Sour cream String cheese 	<ul style="list-style-type: none"> Custard Custard yogurt Dairy products with egg Eggnog Puddings with egg

Foods your child can eat (No egg)	Foods your child should NOT eat (Contain egg)
Proteins	
<ul style="list-style-type: none"> All plain cooked fish, poultry, beef, pork, lamb, and other meats w/out egg added in processing or preparation Baby meats (make sure egg-free) Bacon Nuts and seeds Plain, cooked or canned beans, peas, lentils Peanut butter Refried beans Tofu Tuna or salmon canned in water or oil 	<ul style="list-style-type: none"> Batter-fried or breaded fish, poultry, beef, pork or other meats Croquettes Deviled, hard-boiled, scrambled, fried eggs Liquid and dry egg substitutes Meatballs, Meat loaf Omelettes Some sausages Frozen entrees: check for egg products
Vegetables	
<ul style="list-style-type: none"> All fresh vegetables Baby vegetables (make sure egg-free) Canned vegetables (make sure egg-free) Frozen vegetables (make sure egg-free) 	<ul style="list-style-type: none"> Caesar salad (mayonnaise) Check salad dressing for egg Coleslaw (mayonnaise) Salads with hard-boiled eggs
Miscellaneous	
<ul style="list-style-type: none"> Barbeque sauces Honey Jelly/Jam Ketchup Molasses Mustard Oils Pickles Popcorn Soy sauce, teriyaki sauces Sugar Salsa Tomato soup Vegan mayonnaise Vinegars 	<ul style="list-style-type: none"> Baby foods with Pasta Egg drop soup Egg rolls Macaroons Mayonnaise Meringue Noodle Soups Vaccines (discuss with your doctor as some vaccines egg based)

What about foods outside of the home?

School/Daycare—Do the following:

- Ask your child’s school/daycare about their allergy action plan.
- Tell your child’s school/daycare about his/her allergies.
- Give the school written allergy information,
- Provide emergency contact information.
- Give them a photo of your child.

Everywhere—Teach your child to do the following:

- Know which foods are safe and unsafe
- Not to trade food with others
- Not to eat any food with unknown ingredients
- Know what their allergic symptoms are
- Know how and when to tell an adult about an allergy-related problem
- Read and understand food labels

Eating out can be a challenge with an egg allergy. Many foods have egg products added for binders or thickeners, or as a main ingredient.

Here are some tips to remember when eating out:

- Inquire about all menu items and food preparation before ordering.
- Be aware of cross-contamination. For example: serving tongs for salad items, cooking utensils for multiple foods on the grill, pans used for multiple menu items, etc.
 - Ask if your menu choice can be cooked on a piece of aluminum foil or in a clean pan.
- Choose menu items that do not contain breading or sauces.
- Print a Chef’s card to bring into the restaurant or call ahead.

Learn more

You can find more information about Egg Allergy on the internet—but make sure you visit reliable websites. Not all information on the internet is trustworthy.

Some good websites include:

- **Food Allergy Research and Education**
www.foodallergy.org
- **Kids with Food Allergies**
www.kidswithfoodallergies.org
- **Utah Food Allergy Network**
www.utahfoodallergy.org
- **American Academy of Allergy, Asthma, and Immunology**
www.aaaai.org
- **Academy of Nutrition and Dietetics**
www.eatright.org
- **Safe Fare eating-out information**
www.safefare.org

For additional information and questions please contact the Outpatient Dietitians at Primary Children’s Hospital at 801.662.1601.

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